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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/078,252

02/16/2002

Greg North

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06/19/2006

FORTKORT & HOUSTON P.C.
9442 N. CAPITAL OF TEXAS HIGHWAY
ARBORETUM PLAZA ONE, SUITE 500
AUSTIN, TX 78759

EXAMINER

NGO, CHUONG D

ART UNIT

PAPER NUMBER

2193

DATE MAILED: 06/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/078,252	Applicant(s) NORTH ET AL.	
	Examiner Chuong D. Ngo	Art Unit 2193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03/14/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 20-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 17, 18 and 20-24 is/are rejected.
- 7) ☒ Claim(s) 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120 because the references to the earlier non-provisional applications cited in page 2 of specification fail to include the relationship (i.e., continuation, divisional, or continuation-in-part) of the non-provisional application.

In order to comply with the requirements for receiving the benefit of an earlier filing date under 35 U.S.C. 120, the references to an earlier non-provisional application in the first sentence of the specification must include the relationship of the nonprovisional application. Further, the status of these non-provisional application should be updated.

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 18-23 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 18-23 are directed to a computer implemented method of calculation where the inputs are numbers and the result are also numbers. In order for a claimed invention that is directed to such a computer implemented method to be statutory, the claimed invention must accomplish a practical application. That is the claimed invention must transform an article or physical object to a different state or thing, or produce a useful, concrete and tangible result. State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. Also see "Interim Guidelines for

Art Unit: 2193

Examination of Patent Applications for Patent Subject Matter Eligibility”, OG Notices: 22 November 2005. It is clear from claims 18-23 that the claims merely recite steps of data calculations and manipulations. The claimed invention does perform any physical transformation, and the result of the invention is a mere numerical value without a practical application recited in the claims. Therefore, the result is not useful, concrete and tangible. Thus, the claimed inventions are non-statutory subject matter as the claims fail to assert a practical application to the claimed invention. The recitation “encrypting/decrypting”, appears only in the preamble, is a mere field of use limitation that does not render the invention statutory.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1,17 and 24 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Denman, Jr. et al. (4,893,268).

Denman, Jr. et al, discloses in figure 1 an apparatus including a flexible chaining controller (40,46), a plurality of computational devices (31,33,35,37), as claimed.

Art Unit: 2193

6. Claims 1-9,11,12,14,15 and 17 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Powell et al (6,282,290).

As per claims 1,2, and 17, Powell et al discloses in figures 1-3 an exponentiation apparatus including a chaining controller (12), a plurality of computational devices having a first chain of at least two exponentiation devices (24, see col. 9, lines 39-44) for computing a first exponentiation chain (see figure 3) as claimed.

As per claims 3-9,11 and 12 Powell et al also discloses in figure 2 the least two exponentiation devices are being the same, each including multiplier (28) and an identical controller (26) for efficiently control device perform 512- bit exponentiation in parallel without delay from one to the other.

As per claim 14 and 15, Powell disclose in figure 3 a cleave(102-105)/merge(106-111) as claimed.

7. Claims 1-3,5-10,12,13,17 and 24 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Fairclough et al. (WO 01/29652 A2)

As per claims 1,2,17 and 24, Fairclough et al. discloses in figures 2 and 3 an exponentiation apparatus including a chaining controller (26), a plurality of computational devices (30) having a first chain of at least two exponentiation devices for computing a first exponentiation chain (see figure 3) as claimed.

As per claims 3 and 5-8, each computational device (30) inherently comprises a multiplier and a controller for controlling it operation, and has the same fanout control logic as being identical.

As per claims 9, 10 and 12, Fairclough et al. also discloses in figure 3, four exponentiations,

As per claim 13, Fairclough et al. discloses in figure 2 additional exponentiation chain (20).

8. Claim 16 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Applicant's arguments filed 03/14/2006 have been fully considered but they are not persuasive.

Regarding the rejection under 35 U.S.C. 101, it is respectfully submitted that the recitation "encrypting/decrypting" in claim 18 is a field of use limitation because it is only recited in the preamble, and the body of the claim does recite anything that links to "encrypting/decrypting". Such a field of use limitation does not render the invention statutory.

Regarding the rejection of claim-9, 11, 12, 14, 15 and 17 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Powell et al, it is respectfully submitted that the claims do not specifically define the chaining controller as applicant argued. The recitation in claim 1 that "the chaining controller is configured to instruct the first chaining subset to operated as a first computational chain" is clearly met by the CPU 12 of Powell et al. that controls the interaction between the computational devices 24a and 24b in performing an exponentiation.

Art Unit: 2193

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuong D. Ngo whose telephone number is (571) 272-3731. The examiner can normally be reached on Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Chuong D Ngo
Primary Examiner
Art Unit 2193

06/08/2006